

28-4-10/35

Determination of the Warmth-Insulating Properties of Clothing Material

ASSOCIATION: All-Union Research Institute for Animal Raw Materials and  
Furs (Vsesoyuznyy nauchno-issledovatel'skiy institut zhivot-  
nogo syr'ya i pushniny) and [Moskva Technological Institute  
of Light Industry (Moskovskiy tekhnologicheskiy institut  
legkoy promyshlennosti)] *for TRET'YAKOVA, L. I.*

AVAILABLE: Library of Congress

Card 3/3

SHEKNTER, A. B.; TRET'YAKOVA, I. I.; YECHEYSTOVA, A. I.

Electron Microscope

Method for relocating a given visual field in the electron microscope.  
Trudy Inst. fiz. khimii AN SSSR no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SHKIN, A. S.; MET'YAKA, I. I.; LAVRENT'IA, N. I.

Electron Microscope

Method for relocating a given visual field in the electron microscope. Trudy Inst. fiz. khimii AN SSSR no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

SHEKHTER, A. B.; TRET'YAKOVA, I. I.; VOSNEYTKA, A. I.

Electron Microscope

Method for relocating a given visual field in the electron microscope. Trudy Inst. fiz. khimii AN SSSR no. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. UNCLASSIFIED.

USSR / Human and Animal Physiology (Normal and Pathological). Effect on Physical Factors. Ionizing Irradiations.

Abs Jour. Ref Zhur-Biologiya, No 21, 1958, 98046

Author : Tret'yakova, K. A.

Inst : Not given

Title : The Content of Cholesterine and Ascorbic Acid in the Adrenals of Rats After the Effect of Ionizing Irradiation

Orig Pub: Probl. endokrinil, i gormonoterapii, 1957, 3, No 3, 72-74

Abstract: In white rats which were killed at various times after general X-ray irradiation of 700 r, the content of cholesterine (I) in one adrenal and in the

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USSR / Human and Animal Physiology (Normal and Pathological). Effect on Physical Factors. Ionizing Irradiations.

Abs Jour: Ref Zhur-Biologiya, No 21, 1953, 98046

other of ascorbic acid (II) expressed as mg/g of raw tissue was determined. Already after one hour, a 34 percent decrease of I on the average was noted and II in 26 percent against control values. Approximately the same loss of I was found at subsequent periods of investigation and only after three days a partial recovery in the form of deficit decrease to 21 percent was noted at the time when the content of II was completely restored in the first day but decreased again after three days. The weight of adrenals increased to some extent towards the end of the investigation. --E. B. Glikson

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TRET'YAKOVA, K. A.

TRET'YAKOVA, K. A. --"Changes in the Cytochronoxidase and Succinhydrase Activity of Tissues in Atherosclerosis, and in Atherosclerosis Combined with Hypertonia, Based on Experimental Data." Moscow, 1955. (Dissertation for the Degree of Candidate in Biological Sciences.)

So.: Knizhnaya Litopis', No 7, 1956.

TRET'YAKOVA, L.G., tekhnolog.

Our experience. Leg.prom. 7 no.10:7-8 0 '47.

(MLRA 6:11)

1. Moskovskaya shveynaya fabrika No.11.

(Clothing industry)

TRET'YAKOVA, L. I., Cand Tech Sci -- (diss) "Effect of processing methods on the heat-protective properties of intermediate cotton layers." Moscow, 1960. 17 pp; (Ministry of Higher Education USSR, Moscow Technological Inst of Light Industry); 130 copies; price not given; (KL, 19-60, 135)

USSR/Cultivated Plants. General Problems.

M

Abs Jour : Ref Zhur-Biol., No 15, 1956, 68056

Author : Trct'yakova, L. S.  
Inst : Central Seed Control Laboratory of the USSR  
Ministry of Agriculture.  
Title : The Luminescent Method of Determining Germinating Power in Seeds.

Orig Pub : Sots. s. kh. Uzbekistana, 1957, No 8, 71-73

Abstract : A method has been developed by the Central Seed Control Laboratory of the USSR Ministry of Agriculture and the State Optical Institute based on different luminescences of chemical substances of seeds which will, as opposed to those which will not, germinate. In 1956, the Seed Control Laboratory of the USSR Ministry of

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USSR/Cultivated Plants. General Problems.

Abs Jour : Ref Zhur-Biol., No 15, 1951, 63056

Agriculture conducted luminiscent analyses of 70 specimens (20 wheat, 20 barley, 20 corn, 10 flax). Data are given determining the germinability in corn, wheat, and barley seeds, using the methods of painting with indigo-carmine, luminescence, and germinating. When a large percentage of the seeds germinated, the results of all three methods were similar; when seeds with reduced germinability were evaluated, however, germinating them produced lower indices. The author recommends the development of a method of applying mercury-quartz lamps to determine the germinability of seeds of all crops grown in the Uzbek SSR. -- N. I. Nyazdrikova

Card : 2/2

TRET'YAKOVA, M.I.

USSR/Nuclear Physics - Elementary Particles.

C-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, 8648

Author : Gramenitskiy, I.M., Zamchalova, Ye.A., Podgoretskiy, M.I.  
Tret'yakova, M.I., Shcherbakova, M.N.

Inst :  
Title : Two  $\tau$ -Mesons Detected in Photographic Emulsions.

Orig Pub : Zh. eksperim. i teor. fiziki, 1956, 30, No 5, 967-969.

Abstract : A description of two decays of  $\tau$ -mesons, detected in a type R photo emulsion (450 microns), exposed at an altitude of 27 km. In one case all three pions terminate their range within the emulsion pile, and with this one of the secondary pions has a small energy (9.5 - 0.2 Mev). This, according to Dalitz, is evidence of the assumption that the  $\tau$ - and  $\chi$ - mesons are different particles, and not different types of decay of the same particle.

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ALEKSEYEVA, K.I.; ZHDANOV, G.B.; ZAMCHALOVA, Ye.A.; TRET'YAKOVA, M.I.;  
SHCHERBAKOVA, M.N.

Study by the photographic emulsion method of the interaction  
between 8.7 Bev protons and quasi-free nucleons. Zhur. eksp.  
i teor. fiz. 40 no.6:1625-1637 Je '61. (MIRA 14:8)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.  
(Photography, Particle track)  
(Protons)  
(Nucleons)

120-6-8/36

AUTHORS: Voykovskiy, B.A., Galaktionov, A.I., Tret'yakova, M.I.  
and Chudakov, A.Ye.

TITLE: Photometering of Tracks Due to Charged Particles in Photo-  
graphic Emulsions (Fotometirovaniye sledov zaryazhennykh  
chastits v fotoemul'sii)

PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6,  
pp. 38 - 42 (USSR).

ABSTRACT: A photometer is described which can be used to determine  
the density of a track in a photographic emulsion. A photo-  
graph of the apparatus is given in Fig.1 and its principles  
are as follows. The part of the track under investigation is  
made parallel to the slit of the photometer. Light which passes  
through the track objective and then the photometer slit is  
intercepted by the cathode of a photomultiplier. Depending on  
the density of the track the output of the photomultiplier falls  
or increases, as the slit is moved along and parallel to the  
track. The voltage across the photomultiplier load is then  
amplified by an amplifier and is applied to the plates of an  
oscilloscope. An automatic device is incorporated which ensures  
that the track always lies within the slit. The quantity  $h/H$   
(where  $h$  is the maximum density on the axis of the track and  
Cardl/3  $H$  is the background density) was measured for protons and  
Cardl/3

120-6-8/36

Photometering of Tracks Due to Charged Particles in Photographic Emulsions.

$\pi$ -mesons as a function of residual range. Comparing the ranges of protons and  $\pi$ -mesons corresponding to the same value of  $h/H$  the ratio of the mass of the protons to that of the mesons could be calculated (for ranges between 520 and 1 100, and 3 800 - 7 000 microns for protons and  $\pi$ -mesons, respectively). Figs. 4 and 6 show curves of  $h/H$  as functions of range for protons,  $\pi$ -mesons, and  $\tau$ -mesons. Using the above method, it also is possible to determine the cross-sectional profile of each track. The area under this curve is denoted by S. The following masses were found for the  $\tau$ -mesons:

$$m_{\tau} = (1 050 \pm 175) m_e \quad (\text{from } h/H \text{ and the range})$$

$$m_{\tau} = (985 \pm 120) m_e \quad (\text{from } S \text{ and the range}).$$

The values for the  $\pi$ -mesons are as follows:

$$m_p/m_{\pi} = 6.4 \pm 0.6 \quad (\text{from } h/H \text{ and the range})$$

$$m_p/m_{\pi} = 6.6 \pm 0.5 \quad (\text{from } S \text{ and the range}).$$

Card2/3 It is found that using the "S method" it is easier to separate singly-charged particles of different nature. A measurement of

Photometering of Tracks due to Charged Particles in Photographic  
Emulsions. 120-6-8/36

S will also yield Z for relativistic particles. V. Karpova  
and V. Sachkov carried out the measurements on the instrument.  
There are 6 figures and 7 non-Slavic references.

ASSOCIATION: Institute of Physics imeni P.N. Lebedev Ac.Sc. USSR.  
(Fizicheskiy Institut im. P.N. Lebedeva AN SSSR)  
SUBMITTED: May 21, 1957  
AVAILABLE: Library of Congress.  
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120-6-9/36  
TAKI YAKOV, M.I.

AUTHORS: Voykovskiy, B.A., Galaktionov, A.I. and Tret'yakova, M.I. 120-6-9/36  
TITLE: An Instrument for Measuring the Length and Number of Gaps  
in Tracks due to Charged Particles in Photographic Emulsions.  
(Pribor dlya izmereniya dliny i chisla razryvov na sledakh  
zaryazhennykh chastits v fotoemul'siyakh)  
PERIODICAL: Pribory i Tekhnika Eksperimenta, 1957, No.6,  
pp. 42 - 45 (USSR).

ABSTRACT: A gapmeter is described which can be used to measure simultaneously the length of a given part of a track due to a charged particle, the number and the total length of gaps (of given length or greater than a given length) between the grains of the emulsion. Curves are given of the differential and integral gap length as functions of range for protons and  $\pi$ -mesons in NIKFI-R emulsions. The instrument works as follows. The microscope stage on which the emulsion is placed can be moved by means of an electric motor. To begin with, the track under investigation is lined up parallel to the direction of motion of the microscope stage. The movement of the stage is transformed into photoelectric impulses which after amplification and shaping are fed into a counter. In one of the eye pieces of the microscope there is a thin wire perpendicular to the track. When the beginning of the part of the track under

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An Instrument of Measuring the Length and Number of Gaps in Tracks  
due to Charged Particles in Photographic Emulsions.

investigation coincides with the wire the observer presses a button which switches in the counter which measures the total length of the track. When the wire coincides with the beginning of a gap the observer switches in the counter which measures gap length and automatically counts the number of gaps. After each 100  $\mu$  of the track the motor automatically stops and the observer makes a note of the readings of the counters. The motor has a variable speed which can be regulated by the observer e.g. when he comes towards the end of the gap he can slow down the motor. Curves are given of gap length  $L$  as a function of range for protons and  $\pi$ -mesons, the total length of the gaps as a function of range for  $\pi$ -mesons, protons and  $\tau$ -mesons, and the total number of gaps as a function of range for  $\pi$ -mesons, protons and  $\tau$ -mesons. The following values were obtained:

$$\frac{m_p}{m_\pi} = 6.1 \pm 0.3 \quad (\text{from } L \text{ and range})$$

$$\frac{m_p}{m_\pi} \approx 6.5 \quad (\text{from the total length of gaps and range})$$

$$\frac{m_p}{m_p} \quad 0.5 - 0.6 \quad (-\text{ditto}-)$$

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An Instrument of Measuring the Length and Number of Gaps in Tracks  
due to Charged Particles in Photographic Emulsions.

120-6-9/36

A. Nomofilom and Ye.A. Brik carried out the measurements on  
the gap-meter. There are 6 diagrams and 6 references, 2 of which

ASSOCIATION: Physical Institute imeni P.N. Lebedev Ac.Sc. USSR.  
(Fizicheskiy Institut AN SSSR) are Slavic.

SUBMITTED: April 26, 1957.

AVAILABLE: Library of Congress.

Card 3/3

TRET'YAKOVA, M.I.

GRAMENITSKIY, I.M.; ZHDANOV, G.B.; TRET'YAKOVA, M.I.; SHCHERBAKOVA, M.N.

Soft component of electron-nuclear showers with energy of the order  
of  $10^{14}$  ev. Zhur. eksp. i teor. fiz. 33 no.1:282-283 Jl '57.  
(MLRA 10:9)

I. Fizicheskiy institut im. P.N. Lebedeva Akademii nauk SSSR.  
(Cosmic rays)

TRET'IAKOVA, I. Ye., ed.

Russia (1923- U.S.S.R.) Map on world vegetation; for secondary schools. (Map 54-209)  
G3201.I2 194-.R42

1. Phytogeography -- Maps. I. Tret'iaкова, I.E., ed. II. Tkachenko, V.I., ed. III.  
Il'inskii, Aleksei Porfir'evich.

TRET'YAKOVÁ, L.Ye.

TRET'YAKOVÁ, L.Ye., redakter.

[European U.S.S.R.; physical map] SSSR - Evropeiskaia chast':  
fizicheskaiia karta. Otvetstvennyi redaktor Tret'yakova, L.N.  
[Moskva, 1946] (MLRA 7:5)

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodeszii i  
kartografii.  
(Russia--Maps, Physical)

TRET'YAKOVA, L. Ye.

PRASOLOV, Leonid Ivanovich, 1875-1954, nauchnyy redaktor; TRET'YAKOVA, L.Ye.,  
redaktor

[Soil map of the U.S.S.R.; for use in the secondary school]  
Pochvennaya karta SSSR; uchebnaya, dlia sredney shkoly. Nauchnyi  
redaktor L.I.Prosolov. Otvetstvennyi redaktor L. Ye.Tret'yakova.  
(MLRA 7:6)  
Moskva, 1949.

1. Russia (1923- U.S.S.R.) Glavnoye upravleniye geodesii i  
kartografii.  
(Soils--Maps)

IL' INSKIY, Aleksey Porfir'yevich; TRET'YAKOVA, L.Ye., redaktor

[Vegetation map of the world; for secondary schools] Karta rastitel'-  
nosti mira: uchebnaya dlia srednei shkoly. Red. Tretiakova, L.E..  
Moskva, 1954. (MLRA 9:12)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye geodezii i  
kartografii.  
(Phytogeography--Maps)

KRIMER, I.L., otv.red.; SOBOLEVA, V.S., otv.red.; SKURYGINA, P.V.,  
P.V., otv.red.; SHURAN, Ye.M., otv.red.; TRET'YAKOVA, L.Ye.,  
otv.red.; BALANTSEVA, I.A., otv.red.; SHAPIRO, Ye.M., otv.red.;  
VEDOSEYEV, V.A., red.; BENEVSKAYA, V.A., red.; SOLOV'YEV, S.N.,  
tekhn.red.

[Cartographic chronicle; organ of the state bibliography of the  
U.S.S.R. for 1951-1953] Kartograficheskai letopis'; organ  
gosudarstvennoi bibliografii SSSR, 1951-1953. Moskva, Izd-vo  
Vses.knizhnoi palaty, 1954. 162 p. (MIRA 12:7)

1. Vsesoyuznaya knizhnaya palata.  
(Bibliography--Maps)

SOV/14-57-12-25402KRT

Translation from: Referativnyy zhurnal, Geografiya, 1957, Nr 12,  
p 13 (USSR)

EDITOR: Tret'yakova, L. Ye.

TITLE: A Zoogeographical World Map for High Schools. Scale of  
1 : 20 000 000 (Zoogeograficheskaya karta mira dlya  
sredney shkoly. M. 1 : 20 000 000)

PERIODICAL: Gl. upr. geod. i kartogr. MVD SSSR, 1957, 4 l., 6 rub.

ABSTRACT: Bibliographic entry  
Card 1/1

KOVSHILO, A.I.; TRET'YAKOVA, L.Z.

Analysis of the electric reactions of the brain to rhythmic light stimulation in cerebral vasopathy and sclerosis of the cerebral vessels. Trudy 1-go MMI 34:563-568 '64.  
(MIRA 18:11)

I. Kafedra psichiatrii (zav. - zasluzhennyy deyatel' nauki prof. V.M. Banshchikov) 1-go Moskovskogo ordena Lenina meditsinskogo instituta imeni Sechenova.

TRET'YAKOVA, M. I.  
USSR/Nuclear Physics - Fission

FD-2210

Card 1/1 Pub. 146-15/25

Author : Gramenitskiy, I. M.; Zamchalova, Ye. A.; Podgoretskiy, M. L.; Tret'yakova,  
M. I.; and Shcherbakova, M. N.

Title : Nuclear fissions connected with heavy unstable particles

Periodical : Zhur. eksp. i teor. fiz. 28, 616-617, May 1955

Abstract : The authors remark that, by means of the method of thick-layered photo-emulsions, nuclear physicists have up to the present time found more than 100 nuclear fissions in which hyperons (charged hyperons  $\Lambda^+$  and  $\Lambda^0$  particles) and heavy mesons with mass about 1000 me (K and tau mesons) are produced; also observed are about 30 secondary nuclear fissions caused by nuclear capture of residual negative heavy mesons. In this short note the authors briefly expound certain results of a statistical analysis of these fissions. Seven references, all non-USSR.

Institution : Physics Institute im. P. N. Lebedev, Academy of Sciences USSR

Submitted : February 8, 1955

TRETYAKOVA, M. I.

USSR/Nuclear Physics - Nuclear capture of mesons

FD-2879

Card 1/2      Pub. 146 - 16/26

Author : Zamchalova, Ye. A.; Karpova, V. I.; Tret'yakova, M. I.

Title : Nuclear capture of negative heavy meson

Periodical : Zhur. eksp. i teor. fiz., 29, August 1955, 245

Abstract : In type-P photoplates with emulsion thickness 300 microns irradiated in the stratosphere, the authors found a case where the visible flight path of one particle (photograph in the original) amounts to as much as 495 microns. According to a measurement of ionization and scattering along the trace, the photograph shows clearly that the particle was stopped at a certain point A from which proceed two tracks: one gray one and one very short black one about 1 micron. The presence of the short black track testifies to the nuclear capture of a primary particle which thus can be either a negative pi-meson or a heavier negative particle. Another particle exited from the emulsion after traversing a path of 674 microns, its ionization amounting to  $3.2 \pm 0.3$  of minimum ionization; hence it follows that the first mentioned particle is heavier than a pi-meson, since if one even assumes the second particle to be a proton then its energy must be about 200 Mev. A proton of such energy cannot be created during nuclear capture

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FD-2879

of a pi-meson. The mass of the second particle turns out to be 350+200 me; therefore it must be a pi-meson, and hence its energy is about 30 Mev. Similarly, the mass of the first particle must be between pi-meson and proton, all of which indicates nuclear capture of the stopped negative heavy meson. Thanks I. M. Gramenitskiy and M. I. Podgoretskiy.

Institution : Physics Institute im. P. N. Lebedev, Academy of Sciences USSR  
Submitted : April 18, 1955

"APPROVED FOR RELEASE: 04/03/2001

CIA-RDP86-00513R001756610005-0

APPROVED FOR RELEASE: 04/03/2001 CIA-RDP86-00513R001756610005-0"

GRAMENITSKIY, I.M.; ZAMCHALOVA, Ye.A.; PODGORETSKIY, M.I.; TRET'YAKOVA, M.I.;  
SHCHERBAKOVA, M.N.

Two  $\bar{\tau}$ -mesons detected in a photographic emulsion. Zhur.ekspl. i teor.fiz.  
30 no.5:967-969 My '56. (MIRA 9:9)

1.Fizicheskiy institut imeni P.N.Lebedeva Akademii nauk SSSR.  
(Mesons)

*cont'd*

TRET'YAKOVA, M. I., master Phys-Math Sci — (diss) "Determining the mass of slow charge particles on photographic plates." (AS USSR Publishing house), moscow,  
1957, 11. pp, (AS USSR. Physics Inst im. Lebedeva), 125 copies.

(KL, No 40, 1957, 90)

TRET'YAKOVA, M.I.

AUTHOR:

TITLE:

PERIODICAL:

ABSTRACT:

TRET'YAKOVA, M.I.

Determination of the Mass of Slow Charged Particles in Photographic Emulsions. (Opredeleniye massy medlennykh zaryazhennykh chastits v fotoplastinkakh, Russian) Zhurnal Eksperim. i Teoret. Fiziki, 1957, Vol 32, Nr 6, pp 1280 - 1293 (U.S.S.R.)

56-6-3/56

The determination of the mass of charged particles in photoplates is permissible only if the same results have been obtained by several methods. The following methods are used:

- a) The method of magnetic deflection from ionization and determination of range,
- b) mass determination from scattering and range,
- c) from scattering and range.

As secondary particles positive mesons with a mass of  $\sim 1000 m_e$  with  $2,5 \pm 1,5\%$  of the found protons were measured in an altitude of 9,5 km. Particles with a mass of between 500 - 600  $m_e$  were not observed ( $\ll 1\%$  of the protons found).

For photoplates which were irradiated with  $\sim 460$  MeV the mass distribution of the slow charged particles is determined.

In the case of both experiments many deuterons were found among the slow charged secondary particles, which amounted to about

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Determination of the Mass of Slow Charged Particles in Photographic Emulsions. 56-6-3/56

90 % of the number of protons.  
(With 6 tables, 3 illustrations, and 9 Slavic references)

ASSOCIATION:

Physical Institute "P.N.LEBEDEV" of the Academy of Science of the U.S.S.R. (Fizicheskii institut im P.N.LEBEDEVA akademii nauk S.S.S.R.)

PRESENTED BY:

27.12.1956

SUBMITTED:

AVAILABLE:

Card 2/2

Library of Congress

7/27/1986 by M.L.

AUTHOR: GRAMENITSKIY,I.M., ZHDANOV,G.B., TRETYAKOVA,M.I. 56-7-50/66  
SHCHERBAKOVA,M.N.

TITLE: The Soft Component of an Electron Nuclear Shower at an Energy of  
 $\sim 10^{14}$  eV. (Myagkaya komponenta elektronno - yadernogo livnya  
pri energii poryadka  $10^{14}$  eV)  
PERIODICAL: Zhurnal Eksperim. i Teoret.Fiziki, 1957, Vol 33, Nr 7, pp 282-283  
(U.S.S.R.)

ABSTRACT: The spatial and energy distribution of electron pairs and the  
spatial distribution of electrons are shown in form of tables. The  
spatial distribution of the particles of the soft components in  
the direction which is vertical to the axis of the shower in a  
distance of  $t = 2$  can be represented by the function:  
 $f(r) \sim r^{-1,62 \pm 0,05}$ ,  $r = t^{\sqrt{3}}$ . (With 2 Tables, 1 Illustration  
and 2 Slavic References).

ASSOCIATION: Physical Institute "P.N.LEBEDEV" of the Academy of Sciences of the  
U.S.S.R.) (Fizicheskiy institut im. P.N.Lebedeva Akademii nauk  
SSSR)

PRESENTED BY:

SUBMITTED: 2.4.1957

AVAILABLE: Library of Congress

Card 1/1

TRET'YAKOVA, M. I.

AUTHOR: None Given

30-58-4-30/44

TITLE: Dissertations (Dissertatsii).  
Branch of Physico-Mathematical Sciences  
(Otdeleniye fiziko-matematicheskikh nauk).  
July-December 1957 (Iyul'-Dekabr' 1957)

PERIODICAL: Vestnik Akademii Nauk SSSR, 1958, Nr 4,  
pp. 116-116 (USSR)

ABSTRACT: 6) At the Institute for Physics imeni P. N. Lebedev  
(Fizicheskiy Institut imeni P. N. Lebedeva) the following  
dissertations were defended:  
a) for the degree of a Doctor of Physico-Mathematical  
Sciences: B. M. Kozyrev - Experimental Investigations  
in the Field of Paramagnetic Resonance. (Eksperimental'nyye  
issledovaniya v oblasti paramagnitnogo rezonansa).  
I. L. Rozental' - On Nuclear Interactions of Particles  
With High Energy. (O yadernom vzaimodeystvii chastits  
bol'shoy energii).  
b) for the degree of a Candidate of Physico-Mathematical Sciences:

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Dissertations. Branch of Physico-Mathematical  
Sciences. July-December 1957

30-58-4-30/44

A. V. Antonov - Investigation of Diffusion Processes and  
of Neutron Retardation in Different Milieus and of the  
Multiplication of Neutrons in Heterogeneous Uranium-  
Graphite Systems by Means of the Impulse Method.  
(Issledovaniye protsessov diffuzii i zamedleniya neytronov  
v razlichnykh sredakh i mul'tiplikatsii neytronov v uran-  
grafitovykh geterogenykh sistemakh s pomoshch'yu impul's-  
snogo metoda).

T. A. Sidorov - Infrared Spectra and the Structure of Some  
Vitrifying Oxides. (Infrakrasnyye spektry i struktura ne-  
kotorykh stekloobrazuyushchikh okislov).

M. I. Tret'yakova - Determination of the Mass of Slow  
Charged Particles in Photographic Plates. (Opredeleniye  
massy medlennykh zaryazhennykh chastits v fotoplastinkakh),

1. Physics—Bibliography 2. Bibliography—Physics

Card 2/2

56-34-4-9/60

AUTHORS: Zhdanov, G. B., Zamchalova, Ye. A., Tret'yakova, M. I., Shcherbakova, M. N.

TITLE: The Nuclear Interaction in a Photoemulsion Accompanied by a High Energy Transfer to the Electron-Photon Component (Yadernoye vzaimodeystviye v fotoemul'sii, soprovozhdayushcheyeysya vysokim vydeleniyem energii v elektronofotonnyu komponentu)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol. 34, Nr 4, pp. 843 - 848 (USSR)

ABSTRACT: This work exactly investigates a case of a nuclear interaction in which at a primary energy of  $250 + 250$  BeV one of the neutral pions carries off an energy of  $\sim 125$  BeV. The authors developed a nuclear interaction of the type  $1 + 12$  n with a very high proportion of the energy transferred to the electron-photon component in a stack of supportless photoemulsions Ilford G-5 which was exposed at a height of 25,5 km during the Italian expedition by S. F. Powell (1955). The microprojection of the shower and of the subsequent electron cascade are illustrated in a diagram. The angular distribution

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56-34-4-9/60

The Nuclear Interaction in a Photoemulsion Accompanied by a High Energy Transfer to the Electron-Photon Component

of the penetrating particles is almost isotropic in a system with the Lorentz factor  $\gamma_c = 7$ . An estimate of the primary energy gives the value

$$E_c = 250 \pm 250 \text{ BeV.}$$

This value, however, could be much lower, if the true angular distribution of the particles (in the center of mass system) differs fundamentally from a symmetrical distribution. The true value of  $E_c$  seems to be hardly higher than 800 BeV. A table illustrates the distributions of the particles in the plane vertical to the cascade axis, found by the authors at three depths of the cascade shower ( $t = 1,6; 3,1$  and  $4,5$  avalanche units). The spatial and energetic distributions of the electrons and of the pairs illustrated in 2 tables, allow an estimate of the total energy of the soft component, for which 4 methods can be used. The values thus obtained are composed in a table. Into the soft component at least 30 % of the total interaction energy are transferred. Also of interest is the considerably sharper concentration of the photons with high energy near the shower axis compared with the angular distribution of the penetrating particles.

Card 2/3

The Nuclear Interaction in a Photoemulsion Accompanied by a High Energy Transfer to the Electron-Photon Component 56-34-4-9/6c

The authors thank R. M. Grysunov, L. V. Kruglov, M. N. Pachkov and Yu. F. Sharayov for their participation in the evaluation of the experimental data, and Professor N. A. Dobrotin and I. L. Rozental' for the discussion of the obtained results. There are 2 figures, 4 tables, and 6 references, 4 of which are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev AS USSR)

SUBMITTED: November 26, 1957

1. Nuclear reactions....Analysis

Card 3/3

TRETYAKOVA, M. I.

ANGULAR DISTRIBUTIONS OF SECONDARY PARTICLES  
AT HIGH ENERGY NUCLEAR INTERACTIONS WITH HEAVY  
NUCLEI OF EMULSION

Jen Phyong Soo, Zhdanov G. B., Tretyakova M. I.

The authors carried out measurements of angular distributions of relativistic particles for 11 high energy "jets" ( $\gamma_c > 10$ ) having  $N_n > 8$  when a neutral or singly charged primary particle was available. The results were compared with predictions of the hydrodynamical theory.

In 10 cases the angular distribution agrees with the theory (criterion gives probability of agreement  $P(\chi^2) \geq 0.30$ ) and in one case a noticeable divergence ( $P(\chi^2) = 1.5\%$ ) takes place with two peaks available. In no case an azimuthal anisotropy was found out.

Report presented at the International Cosmic Ray Conference, Moscow, 6-11 July 1959

SOV/56-37-3-4/62

21(7)  
AUTHORS:

Zhdanov, G. B., Markov, P. K., Strel'tsov, V. N., Tret'yakova,  
M. I., Cheng P'u-ying, Shafranova, M. G.

TITLE:

Secondary Stars Occurring in the Interaction of Protons With Energies of 8.7 Bev With Photographic Emulsion Nuclei

PERIODICAL:

Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 37, Nr 3(9), pp 611 - 615 (USSR)

ABSTRACT:

In collisions between high energy nucleons and nucleons or nuclei the investigation of the energy distribution between the secondary nucleons and the pions is of special interest; Grigorov (Ref 1) found that at primary energies of between 3 and 40 Bev up to 70% of this energy is transferred, Belyakov et al (Ref 2) and Bayatyan et al (Ref 3) investigated the interaction between 9 Bev protons and photoemulsion nuclei, and determined the energy carried away by fast pions as amounting to 20-40% and those carried away by a fast nucleon as (40+20)%. It was the aim of the present paper to evaluate the energy of the fast nucleons and pions produced by the interaction of 8.7 Bev protons with photographic emulsion nuclei. An emulsion

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Secondary Stars Occurring in the Interaction of Protons SOV/56-37-3-4/62  
With Energies of 8.7 Bev With Photographic Emulsion Nuclei

pile (NIKFI-R) consisting of 100 layers was irradiated on the synchrocyclotron with 8.7 Bev protons. Such stars are described as secondary, as show no track of a fast particle with an angle between 178 and 180° (with respect to the track of the primary protons) in the emulsion plane. The following results were obtained by these investigations: 1)  $0.68 \pm 0.07$  fast neutrons ( $E_n > 500$  Mev) were found per star; their average energy was about  $(3.5 \pm 0.5)$  Bev. 2) On the assumption that the numbers of fast protons and neutrons (referred to a star) and their average energy are equal,  $(55 \pm 9)\%$  of the energy of primary particles is carried away by fast nucleons. 3) The average number of fast pions ( $E_\pi > 80$  Mev), including the neutral pions, amounts per interaction to  $3.8 \pm 0.3$ . Their average total energy is  $(0.8 \pm 0.2)$  Bev. 4) An analysis of the angular distributions of the tertiary charged particles in secondary stars indicates that among the secondary particles flying away under an angle  $\leq 10^\circ$  (to the direction of the primary protons) there are about 80% nucleons. The angular distribution for neutrons and fast particles is shown by figure 3. The authors thank M. Ya. Danysh.

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Secondary Stars Occurring in the Interaction of Protons Sov/56-37-3-4/62  
With Energies of 8.7 Bev With Photographic Emulsion Nuclei

M. I. Podgoretskiy and I. L. Rozental' for discussions. There  
are 3 figures, 1 table, and 5 references, 3 of which are Soviet.

ASSOCIATION: Ob'yedinennyi institut yadernykh issledovaniy (Joint Institute  
of Nuclear Research)

SUBMITTED: March 23, 1959

Card 3/3

21(7)

SOV/56-37-3-6/62

AUTHORS: Zhdanov, G. B., Maksimenko, V. M., Tret'yakova, M. I.,  
Shcherbakova, M. N.

TITLE: Nuclear Interactions of Protons With Energies of 8.7 Bev in  
Photographic Emulsions

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959,  
Vol 37, Nr 3(9), pp 620 - 633 (USSR)

ABSTRACT: The authors investigated an emulsion pile, which had been  
irradiated with 8.7 Bev protons at the synchrophasotron of the  
OIYaI (United Institute of Nuclear Research). The photographic  
emulsions concerned were of the NIKFI-R type, which had a  
thickness of  $450 \mu$  (27-30 grains/ $100\mu$ ). For the purpose of the  
present very detailed paper, about 25000 tracks with a total  
length of  $\approx 300$  m were evaluated. In chapter 1 the investiga-  
tion results which make an evaluation of the inelastic inter-  
action cross section possible are discussed and some of them  
are given by two tables. Table 1 contains the ranges  $\lambda$  for two  
forms of interaction: for star formation ( $\lambda = 35.0 \pm 1.3$  cm) and  
for "pure" scattering ( $1750 \pm 500$  cm) if the scattering angle

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Nuclear Interactions of Protons With Energies of  
8.7 Bev in Photographic Emulsions

SOV/56-37-3-6/62

>5°, and  $750 \pm 150$  cm if it is between 1 and 5°. In consideration of the degree of efficiency of recording,  $500 \pm 100$  cm is obtained. If in the former case all error sources are taken into account,  $\lambda_{inelast} = 34 \pm 2$  cm is obtained, and the geometric total cross section of all photographic emulsion nuclei may be estimated at  $\sigma_{geom} = \pi \cdot (1.38 \cdot 10^{-13} \text{ cm})^2 A^{2/3}$ . The second part of the paper deals with the distribution of stars according to the number of fast and slow particles. The number of "pure" charge exchange interactions (proton-neutron) without any considerable energy loss was low (3%, i.e. 17 among 520 stars). The distribution of stars over various kinds is shown by the diagram of figures 1-3. Chapter 3 describes results concerning the angular distribution of fast and slow particles (Figs 4-8) and the following chapter deals with the results of the analysis of angular distribution curves of the various types of stars. Several conclusions are drawn after comparing the results obtained with calculations based upon the statistical theory. Thus, conclusions are drawn as to the existence of interactions of the peripheral kind (nucleon-nucleon), as about 25% of the

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Nuclear Interactions of Protons With Energies of  
8.7 Bev in Photographic Emulsions

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interactions with emulsion nuclei with respect to angular distribution and to the average multiplicity of the production of fast particles corresponds to the nucleon-nucleon interaction (according to the statistical theory). The angular distribution of the "gray" tracks depends very weakly on the angular distribution of the fast particles and deviates somewhat from the distribution prevailing in the case of pion interaction with emulsion nuclei ( $E_\pi = 1.5$  Bev). It may be assumed in this case that the occurrence of "gray" particles is due to a considerable extent to the secondary interaction of 1 Bev pions. From the monotonous broadening of angular distributions with growing multiplicity of fast particle production it is possible to draw conclusions as to the nature of the interaction between the primary nucleon and the nucleons in a composite nucleus. The authors finally thank Academician V. I. Veksler for making irradiation on the synchrophasotron possible and they further thank the collaborators of the OIYAI M. I. Podgoretskiy, I. M. Gramenitskiy, K. D. Tolstov, and R. M. Lebelev for discussions, the younger scientific collaborator of the FIAN (Institute

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Nuclear Interactions of Protons With Energies of  
8.7 Bev in Photographic Emulsions

SOV/56-37-3-6/62

of Physics AS USSR) Ye. A. Zamchalova for her assistance, and  
further also Professor N. A. Dobrotin, I. L. Rozental', D. S.  
Chernavskiy, and N. G. Birger for their advice and discussions.  
There are 10 figures, 8 tables, and 11 references, 5 of which  
are Soviet.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Institute of Physics imeni P. N. Lebedev of the Academy of  
Sciences, USSR)

SUBMITTED: April 4, 1959

Card 4/4

L 16098-65 ENT(m) DIAAP  
ACCESSION NR: AP5000010

0/0056/64/047/005/1664/1667

AUTHORS: Zhdanov, G. B.; Tret'yakova, M. I.; Shcherbakova, N. M.

TITLE: Study of the fine structure of the energy spectrum of Gamma quanta produced by protons with energy 18.7 GeV from photographic emulsion nuclei

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 47, no. 5, 1964, 1664-1667

TOPIC TAGS: gamma source, pion decay, eta meson decay, two photon decay, gamma ray spectrum

ABSTRACT: The purpose of the investigation was to ascertain whether there exists an additional source of gamma radiation in nuclear interaction with nuclei. The authors studied the fine structure of the energy spectrum of gamma quanta produced by protons with energy 18.7 GeV from photographic emulsions exposed to a beam of 18.7 GeV protons at an angle of

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ACCESSION NR: AP5000310

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interval 140--950 MeV. On the basis of a statistical sample of 222 electron-positron pairs, it is concluded that the spectrum contains no peaks. Ability of attributing the two-photon mechanism to the most sufficient interpretation of the results of additional experiments was done by various experimentalists of many physically different disciplines. There are therefore no grounds as yet for stating with any assurance that an additional mechanism of  $\gamma$ -quantum generation exists.

"This is from track W 16098-65. It is a copy of a document from the

SSSR. It is dated 18 May 1964. It is a copy of a document from the

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk  
SSSR (Physics Institute, Academy of Sciences SSSR)

SUBMITTED: 18May64

ENCL:

SUB CODE: NP

NR REF Sov: 003

OTHER: 002

Card 2/2

L 05825-67 EW1(L)/EW1(M) 10PACZ

ACC NR: AP6031435 SOURCE CODE: UR/0056/66/051/002/0417/0427

AUTHOR: Galstyan, D. A.; Zhdanov, G. B.; Tret'yakova, M. I.; Shcherbakova, K.  
M. N.; Chernyavskiy, M. M.

ORG: Physics Institut, Academy of Sciences SSSR (Fizicheskiy institut Akademii  
nauk SSSR)

TITLE: Quasi-nucleon interactions between 24 Bev/sec protons and nuclei of a  
photographic emulsion in a strong magnetic field

SOURCE: Zh eksper' teor fiz, v. 51, no. 2, 1966, 417-427

TOPIC TAGS: nucleon interaction, proton, magnetic field, photographic emulsion,  
meson, angular distribution, spectral energy distribution

ABSTRACT: Quasi-nucleon interactions of 24 Bev/sec protons have been investigated  
by the method of photographic emulsion in a pulsed 180-oe magnetic field. In addition to complete information relating to all charged secondary particles (emission  
angle, momentum, and nature of particle), the total energy of neutral mesons was  
determined. The separation of peripheral and nonperipheral interactions was carried  
out with the aid of various criteria. The multiplicity distributions, inelasticity

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L 05825-67

ACC NR: AP6031435

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coefficients, and angular distribution of particles have been determined for both types of interactions. Extensive fluctuations have been found in the distribution of energy between the charged and neutral mesons. An appreciable difference between the energy spectra of  $\pi^+$  and  $\pi^-$  mesons has been determined. The results obtained indicate a large excitation probability for various nucleon isobars. The authors thank E. Dal-Iensen [European Committee for Nuclear Research (CERN)] and E. Skzhipchak [Warsaw University] for their cooperation in obtaining samples of the photographic emulsions irradiated in a magnetic field, and V. M. Maksimenko, Yu. A. Smorodin, Ye. L. Feynberg, D. S. Chernavskiy, and I. M. Dremin for discussing the results. Orig. art. has: 8 figures and 2 tables. [Based on authors' abstract]

SUB CODE: 20 / SUBM DATE: 25Mar66 / ORIG REF: 003 / OTH REF: 004 /

Card 2/2 egh

ZHDANOV, G.B.; TRET'YAKOVA, M.I.; SHCHERBAKOVA, N.N.

Fine structure of the energy spectrum of  $\delta$ -quanta generated by  
18.7 Gev. protons on photoemulsion nuclei. Zhur. eksp. i teor.  
fiz. 47 no.5:1664-1667 U '64.

(MIR 18:2)

I. Fizicheskiy institut imeni P.I. Lebedeva AM SSSR.

VORONKOV, A.Ye.; SOLOV'YEVA, M.F.; SUKHOV, L.V.; TRET'YAKOVA, M.I.;  
CHERNYAVSKIY, M.M.

Use of a device for the automatic measurement of ionization  
and momentum from tracks of relativistic particles. Prib. 1  
tekh. eksp. 9 no.4:75-77 Jl-Ag '64. (MIRA 17:12)

1. Fizicheskiy institut AN SSSR.

ALEKSEYEVA, E.I.; ZHDANOV, G.B.; TRET'YAKOVA, M.I.; SHCHERBAKOVA, M.N.

Ionization-momentum relation for various types of particles in  
the relativistic region. Zhur. eksp. i teor. fiz. 44 no.6:  
1864-1868 Je '63. (MIRA 16:6)

1. Fizicheskiy institut im. P.N. Lebedeva AN SSSR.  
(Photography, Particle track)

L 13646-63  
ACCESSION NR: AP3003112

ENT(1)/BDS/ES(w)-2 AFFTC/ASD/ESD-3/SSD Pab-4  
S/0056/53/044/006/1864/1868/8

AUTHOR: Alekseyeva, K. I.; Zhdanov, G. B.; Tret'yakova, M. I.; Shcherbekova, M. N.

TITLE: Ionization-momentum relation for various particles in the relativistic region

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1864-1868

TOPIC TAGS: ionization-momentum relation, relativistic particles, electrons, protons, pions

ABSTRACT: New data have been obtained on the momentum dependence of the blob density along the tracks of electrons in the 50 MeV/c -- 5 GeV/c momentum range (Ilford G-5 and NIKFI-R emulsions) and of protons and pions in the 1.5--19 and 0.3--6 GeV/c range, respectively (Ilford G-5 emulsion). The experiments were aimed at further tests on the theoretical interpretation given for this effect previously by the authors (ZhETF v. 43, 342, 1962 and Report at the Fourth Int'l. Nuclear Photography Colloquium, Munich, 1962). Pellicles of both makes of emulsions were irradiated by 19.6 GeV/c protons. The pion and proton tracks were selected from stars produced by primary protons on the emulsion nuclei, while the

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L-13646-63  
ACCESSION NR: AP3003112

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electron tracks were selected from electron-positron pairs produced by photons from pion decay in the same interactions. The results confirm the conclusion previously arrived at by the authors that for momenta larger than  $200 \text{ mev}^2$  a drop is observed in the ionization-momentum curve instead of the plateau predicted by the earlier theory. This drop is in agreement with calculations that take radiative corrections into account. "In conclusion the authors would like to thank Dr. W. Lock and Dr. J. Combe for help in obtaining irradiated emulsions from CERN, and laboratory assistants A. S. Kolyadin, L. A. Krupetskoy, N. A. Sobolev, and M. V. Tyurin who carried out the main part of the measurements on the particle tracks." Orig. art. has: 4 figures.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR (Physics Institute Academy of Sciences, SSSR)

SUBMITTED: 26Jan63 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: 00 NO REF Sov: 003 OTHER: 004

Card 2/2

ALEKSEYEVA, K.I.; GABUNIYA, L.L.; DEN PKHEN SU; ZHDANOV, G.B.; TRET'YAKOVA, M.I.

Rare case of high-energy nuclear interaction with isotropic  
angular distribution of the secondary particles. Zhur. eksp. i  
teor. fiz. 43 no.3:783-789 '62. (MIRA 15:10)

1. Fizicheskiy institut imeni P.N.Lebedeva AN SSSR.  
(Nuclear reactions) (Photography, Particle track)

ZHDANOV, G.B.; TRET'YAKOVA, M.I.; TSYTOVICH, V.N.; SHCHERBAKOVA, M.N.

Ionization loss of ultrarelativistic electrons. Zhur. eksp. i teor.  
fiz. 43 no.1:342-345 J1 '62. (MIRA 15:9)  
(Electrons) (Ionization)

ALEKSEYEVA, K.I.; GABUNIYA, L.L.; ZHDANOV, G.B.; ZAMCHALOVA, Ye.A.;  
SHCHERBAKOVA, M.N.; TRET'YAKOVA, M.I.

Study of the composition of the primary cosmic radiation at  
an altitude of 320 km. Isk.sput.Zem. no.12:6-15 '62.

(MIRA 15:8)

(Cosmic rays)

ALEKSEYEVA, K.I.; GABUNIYA, L.L.; DEN PKHEN SU; ZHDANOV, G.B.; TRET'YAKOVA,  
M.I.

Case of a high energy nuclear interaction with an isotropic  
angular distribution. Izv.AN SSSR.Ser.fiz. 26 no.5:572-574  
Ap '62. (MIRA 15:5)  
(Collisions (Nuclear physics)) (Cosmic rays)

S/056/62/043/003/008/063  
B125/B102

AUTHORS: Alekseyeva, K. I., Gabuniya, L. L., Den Pkhen Su,  
Zhdanov, G. B., Tret'yakova, M. I.

TITLE: A rare case of high-energy nuclear interaction with isotropic angular distribution of the secondary particles

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 43,  
no. 3(9), 1962, 783 - 789

TEXT: A nuclear interaction of the type  $2+3 \rightarrow 4$  p with an emission angle of the secondary particles  $\approx 0.8^\circ$  was observed in a small pile of photographic emulsions, type MKF- $\mu$  (NIKFI-R). In 1959 this pile had been irradiated for about 150 hrs at a height of  $\sim 10$  km. In a coordinate system with the Lorentz factor  $\gamma_c = 65$ , the angular distribution of the secondary particles was isotropic (c.m.s.). The coefficient of inelasticity is  $\sim 20\%$  referred to the coordinate system moving along with the primary particles. This event can be explained as follows: (1) the primary particle, which is a proton of  $\sim 10^{12}$  ev, interacts as a whole with a virtual meson of one of the nucleons in the target nucleus. The coefficient

Card 1/2

A rare case of high-energy...

S/056/62/043/003/003/063  
B125/B102

of inelasticity in the laboratory system is  $K_{lab} = 1$ . (2) The primary particle, a pion of  $\sim 10^{12}$  ev, enters into peripheral interaction with a target nucleon, for which  $K_{lab} = 1$ . (3) The primary particle, a proton or  $\sim 10^{13}$  ev, collides with  $K_{lab} \sim 0.2$ . In order to separate high-energy nucleon-nucleon interactions in a photographic emulsion, events of low multiplicity and low coefficients of inelasticity are preferatly chosen. For this reason, the conclusions drawn from photographic emulsions as to energy dependence of multiplicity and anisotropy in NN-interactions are not reliable. There are 3 figures and 2 tables.

ASSOCIATION: Fizicheskiy institut im. P. N. Lebedeva Akademii nauk SSSR  
(Physics Institute imeni P. N. Lebedev of the Academy of Sciences USSR)

SUBMITTED: March 31, 1962

Card 2/2

The ionization losses of ...

S/056/62/043/001/051/056  
B102/B104

emulsion ( $\text{AgBr}$ )  $\text{e}^{-1}$  is between 100 and 200 and the radiation correction reaches 8-10%. The relative track densities, measured in  $H/\text{K}^{\frac{1}{2}}H - P$  (NIKFI-R) emulsions and for 8.7-Bev protons (OIVaI) and Ilford G-5 and 19-Bev protons (CERN) as dependent on  $\epsilon_p/mc^2 \gg 1/f$ , are compared with theoretical curves both with and without radiation correction. The uncorrected agrees satisfactorily with the experimental data. There are 2 figures.

SUBMITTED: May 12, 1962

Card 2/2

BOGOMOLOV, K.S., red.; PERFILOV, N.A., red.; BELOVITSKIY, G.Ye., red.; DOBROSERDOVA, Ye.P., red.; ZHDANOV, G.B., red.; KARTUZHANSKIY, A.L., red.; LYUBOMILOV, S.I., red.; MINERVIA, Z.V., red.; RAZORENOVA, I.F., red.; ROMANOVSKAYA, K.M., red.; SAMOYLOVICH, D.M., red.; STARININ, K.V., red.; TRET'YAKOVA, M.I., red.; UVAROVA, V.M., red.; SHUR, L.I., red.; POPOVA, A.K., red.; VEPRIK, Ya.M., red.; VERES, L.F., red. izd-va; KUZNETSOVA, Ye.B., red. izd-va; POLYAKOVA, T.V., tekhn. red.

[Nuclear photography; transactions] IAdernaia fotografiia; trudy tret'ego Mezhdunarodnogo soveshchaniia. Moskva, Izd-vo Akad. nauk SSSR, 1962. 474 p. (MIRA 15:6)

1. Colloque International de Photographie Corpusculaire. 3d, Moscow, 1960.
2. Nauchno-issledovatel'skiy kinofotoinstitut, Moskva (for Bogomolov, Uvarova, Romanovskaya, Starinin).
3. Predsedatel' Organizatsionnogo komiteta Tret'yego Mezhdunarodnogo soveshchaniya po yadernoy fotografii. 1960, Moskva (for Bogomolov).
4. Zamestitel' predsedatelya Organizatsionnogo komiteta Tre'yego Mezhdunarodnogo soveshchaniya po yadernoy fotografii. 1960, Moskva (for Perfilov).
5. Radiyevyy institut im. V.G. Khlopina Akademii nauk, Leningrad (for Shur, Perfilov).
6. Institut sovetskoy torgovli im. F. Engel'sa (for Kartuzhanskiy).
7. Ob'yedinennyi institut yadernykh issledovaniy, Dubna (for Lyubomilov).
8. Institut atomnoy energii im. I.V. Kurchatova Akademii nauk SSSR, Moskva (for Samoylovich).

(Photography, Particle track)

ALEKSEYEV, K. I. ZHDANOV, G. B., TRETYAKOVA, M. I., TSYTOVICH, V. N., and SHCHERBAKOVA, M. N.

"Ionization momentum dependence for electrons in the ultra-relativistic region"

Fourth International Colloquium on Photography (Corpuscular) - Munich, West Germany, 3-8 Sep 62

37510  
S/048/62/026/005/003/022  
B102/B104

AUTHORS: Alekseyeva, K. I., Gabuniya, L. L., Den Pkhen Su,  
Zhdanov, G. B., and Tret'yakova, M. I.

TITLE: High-energy nuclear interaction events with isotropic  
angular distribution

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 26,  
no. 5, 1962, 572 - 574

TEXT: A  $2+3+40p$ -type nuclear interaction was observed with an HJK&M-P  
(NIKFI-R) photoemulsion (1 liter) which had been exposed for ~150 hrs at  
an altitude of ~10 km. The angular distributions were determined in plane  
and spatial geometry. As functions of  $\log \tan \theta$ , they were S-curves,  
somewhat steeper than the calculated isotropic distribution but fitting  
the curve calculated on the assumption of an energy spectrum of the form  
 $p^2(1+p^2)^{-2}$ . Agreement is best if the shower axis is assumed to coincide  
with the primary-particle direction. The tail of 2-3 particles is  
attributed to secondary nuclear processes. The isotropy of the angular  
distribution is indicative of an interaction of the incoming nucleon with

Card 1/2

High-energy nuclear interaction...

S/048/62/026/005/003/022  
B102/B104

several nucleons of the hit nucleus. The total amount of released energy was calculated from the mean transverse particle momentum (0.4 Bev/c) and from the ratio of neutral to charged particles (1.5), and was found to be  $2 \cdot 10^{12}$  ev in the laboratory system, and not less than 25 Bev in the system of the "excited nucleus". If the latter coincides with the c.m.s. of the colliding nucleons, inelasticity in the l.s. equals  $K = 25\%$ . There are 3 figures.

Card 2/2

TRETYAKOVA, M.I., ALEKSEVA, K.I., GAFUNIYA, L.I., ZHDANOV, G.E.,  
ZAMCHALOVA, E.V., and SHCHERBAKOVA, M.I.,

"Study of Composition of Primary Cosmic Radiation at an  
Altitude of 320 Kilometers,"

report presented at the Intl. Conference on Cosmic Rays and  
Earth Storms, Kyoto, Japan, 4-15 Sept 1961.

TRETYAKOVA, M.I., ALEKSEYEVA, K.I., GAEUNIA, L.L., ZHDANOV, G.B.,

"High Energy Nuclear Interaction with Isotropic  
Distribution of Generated Particles,"

report presented at the Intl. Conference on Cosmic Rays and  
Earth Storms, Kyoto, Japan, 4-15 Sept 1961.

TRETYAKOVA, S. A., SHESTOPEROV, V. YA., BABAYAN, KH. P., EUYA, Z. A.,  
MASSALSKIY, YE. I., Grigorov, N. L., Bayadjan, N. Y., Babeksi, V. S.,  
Loskevicz, J., Dles, A., Murzin, V. S.

"Mountain-Altitude Studies of the Interaction of High-Energy  
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STUDNITSIN, A.A; TRET'YAKOVA, M.M.

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71

USE OF TALL OIL IN SOAP MAKING. A. Lomanovich and N. Tret'yakova. *Mashinostroenie* No. 10, No. 12, 30-41 (1934); *Chimie & industrie* 34, 643. The foaming and emulsifying powers of soaps made with purified tall oil are always higher than those of soaps prep'd. from crude tall oil. The foaming power of soaps made from purified tall oil is not lower than that of pure fat soaps and their emulsifying power also is satisfactory. Soaps prep'd. from a mixt. of hydrogenated fats and tall oil have a higher detergent power than all-fat soaps. Liquid soaps prep'd. exclusively from purified tall oil are perfectly satisfactory; those from crude tall oil have too low an emulsifying power. In practice, 25% of tall oil (on the wt. of the total fat)

<sup>1</sup> preferably refined can be incorporated in household soaps. For toilet soaps, only refined tall oil can be used; about 12% based on the wt. of the fat should be used. The soap thus obtained has a satisfactory consistency and has no particular odor.

A. Papineau-Couture

ASG-SEA METALLURGICAL LITERATURE CLASSIFICATION

OSOVETSKAYA, TSilya Moiseyevna; GAFUROV, Kadyr Khasanovich; DETENGOF,  
F.F., prof., zasl. deyatel' nauki Uzbekskoy SSSR; TRET'YAKOVA, N.,  
red.; AGZAMOV, K., tekhn. red.

[Occupational therapy and the cardiovascular system in mental  
illnesses with a chronic course] Trudoterapiia i serdechno-  
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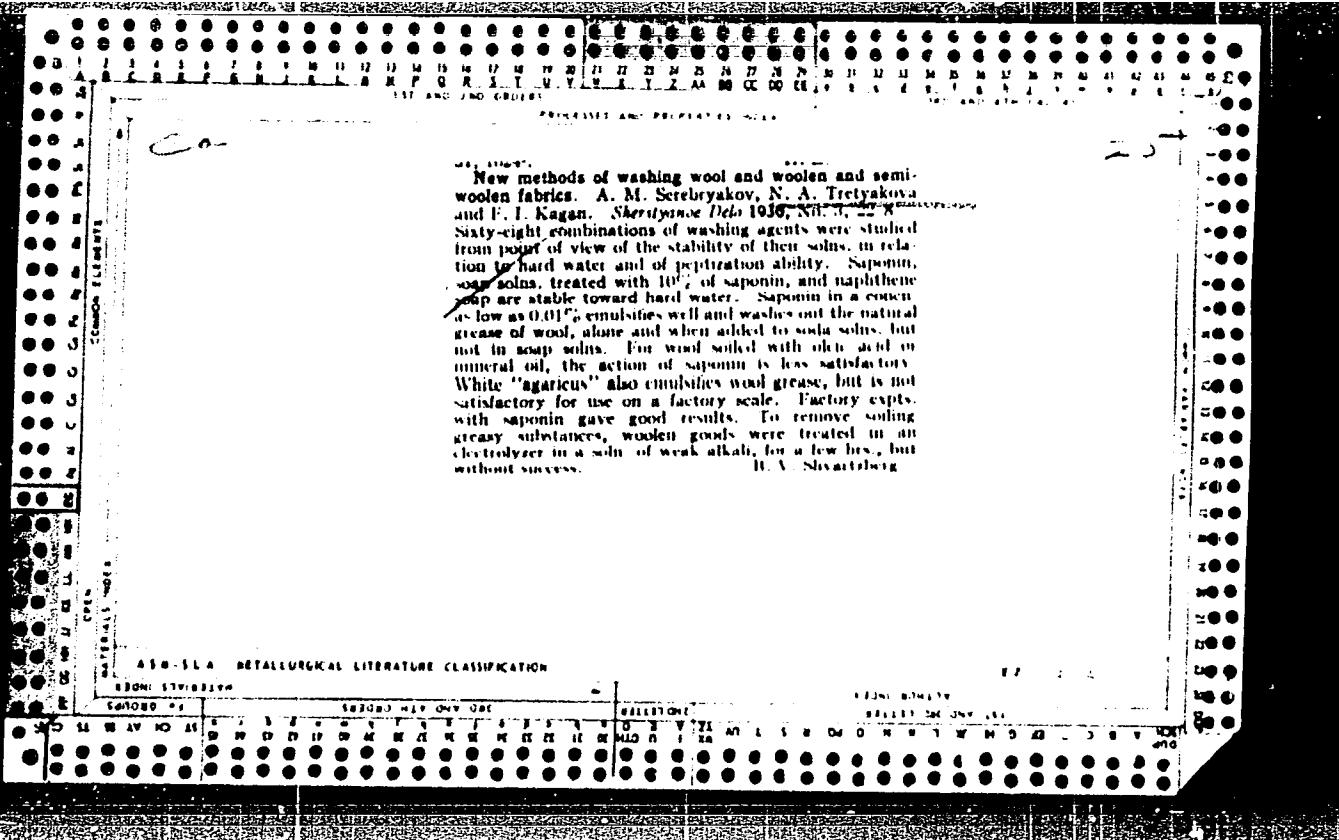
(OCCUPATIONAL THERAPY) (MENTAL ILLNESS)  
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LEVIN, G.S.; TILIS, A.Yu.; TRET'YAKOVA, N., red.; AGZAMOV, K.,  
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TRET'YAKOVA, N. I.

Cand Biol Sci - (diss) "Absorption, distribution, and liberation of strontium-90 upon the introduction of several neurotropic substances." Moscow, 1961. 15 pp; (Academy of Medical Sciences USSR); 250 copies; price not given; (KL, 5-61 sup, 185)

BYKHOVSKIY, M.L.; BADULIN, S.S.; MOROZOV, K.K.; SGIBNEV, A.V.; TRET'YAKOVA,  
N.I.

Investigating the precision of discriminators. Nauch. dokl. vys. shkoly;  
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(Radio frequency modulation)

9(2)

SOV/159-58-3-27/31

AUTHORS:

Bykhovskiy, M.L., Badulin, S.S., Morozov, K.K., Sgibnev, A.V. and Tret'yakova, N.I.

TITLE:

An Investigation of the Accuracy of Intermediate Frequency Amplifiers

PERIODICAL:

Nauchnyye dokladы vysshyey shkoly, Mashinostroyeniye i priborostroyeniye, 1958, Nr 3, pp 190-196 (USSR)

ABSTRACT:

This is Part II of a paper of which Part I was published in the preceding number of subject periodical. In this part, the authors present the experimental determination of influence coefficients by the method of converted circuits. Figure 1 shows two graphs of the IF amplifier of the TV set "Start". Figure 2 shows the apparatus used for the experimental determination of the influence coefficients, consisting of a tube voltmeter LB-9, generator GSS-6 and oscillograph EO-7 for determining the phase by means of Lissajou figures. The final chapter is devoted to methods of adjusting and tuning IF amplifier stages. The authors then summarize the results of their investigations:

Card 1/3

SOV/159-58-3-27/31  
An Investigation of the Accuracy of Intermediate Frequency Amplifiers

1) The basic conceptions were formulated for obtaining formulae for calculating the accuracy of intermediate frequency amplifiers, especially for determining the error in the amplitude-frequency characteristic, the irregularity error of the amplification factor and the phase errors of amplifiers; 2) Experimental methods for investigating and calculating of the IF amplifier accuracy; 3) Graphs were presented for influence coefficients; 4) The accuracy of amplifiers was analyzed; 5) Methods for tuning IF amplifiers were developed and equations were obtained describing the tuning processes. The theory developed in this paper and the methods are illustrated by typified IF amplifier networks. For other networks, the calculation results and the analyses will be different. However, the formulae explained in this paper may be used in an analogous manner without great difficulty for other networks, for example, amplifier stages

Card 2/3

SOV/159-58-3-27/31

An Investigation of the Accuracy of Intermediate Frequency Amplifiers

with grounded grids, etc. There are 1 photograph,  
2 graphs and 1 table.

This article was presented by the  
Kafedra "M-1" Moskovskogo vysshego tekhnicheskogo  
uchilishchha imeni Baumana (Chair "M-1" of the Moscow  
Higher Technical School imeni Bauman)

SUBMITTED: February 7, 1958

Card 3/3

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Yusupovich; TRET'YAKOVA, N.M., red.; TSAY, A.A., tekhn. red.

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[Hygiene of pregnancy and the postnatal period] Gigiena  
beremennosti i poslerodovogo perioda. Tashkent, Medgiz,  
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